

**Appendix A:  
Air Quality Modeling Data**

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**31970005 nils-mixed use - construction**  
**Alameda County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Quality Restaurant	2.40	1000sqft	0.06	2,400.00	0
Condo/Townhouse	98.00	Dwelling Unit	6.13	98,000.00	280

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	63
<b>Climate Zone</b>	5	<b>Operational Year</b>	2014		
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	641.35	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - construction run

Land Use - Project includes 98 du of condo/townhouses and 2.4 ksf of quality restaurant space.

Construction Phase - Construction expected to begin Jan 2015 with an operation date of Feb 2016.

Construction Off-road Equipment Mitigation - Comply with Table 8-2 district construction measures

Demolition - Approximately 1,946.76 tons of debris

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	20.00	10.00

## 2.0 Emissions Summary

### 2.1 Overall Construction

#### Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	0.5463	4.4289	3.4335	4.9400e-003	0.2311	0.2871	0.5182	0.0930	0.2692	0.3622	0.0000	440.7313	440.7313	0.0903	0.0000	442.6274
2016	0.7270	0.2380	0.1750	2.7000e-004	2.5600e-003	0.0140	0.0165	6.8000e-004	0.0130	0.0137	0.0000	24.8488	24.8488	6.4500e-003	0.0000	24.9844
<b>Total</b>	<b>1.2733</b>	<b>4.6669</b>	<b>3.6085</b>	<b>5.2100e-003</b>	<b>0.2337</b>	<b>0.3011</b>	<b>0.5347</b>	<b>0.0937</b>	<b>0.2822</b>	<b>0.3759</b>	<b>0.0000</b>	<b>465.5801</b>	<b>465.5801</b>	<b>0.0967</b>	<b>0.0000</b>	<b>467.6117</b>

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2015	1/14/2015	5	10	
2	Site Preparation	Site Preparation	1/15/2015	1/28/2015	5	10	
3	Grading	Grading	1/29/2015	2/11/2015	5	10	
4	Building Construction	Building Construction	2/12/2015	12/30/2015	5	230	
5	Paving	Paving	12/31/2015	1/27/2016	5	20	
6	Architectural Coating	Architectural Coating	1/28/2016	2/24/2016	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 5

Acres of Paving: 0

Residential Indoor: 198,450; Residential Outdoor: 66,150; Non-Residential Indoor: 3,600; Non-Residential Outdoor: 1,200 (Architectural

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40

### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	72.00	11.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	14.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	0.00	192.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

### 3.2 Demolition - 2015

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0208	0.0000	0.0208	3.1500e-003	0.0000	3.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0225	0.2418	0.1804	2.0000e-004		0.0123	0.0123		0.0114	0.0114	0.0000	18.7206	18.7206	5.0700e-003	0.0000	18.8272
<b>Total</b>	<b>0.0225</b>	<b>0.2418</b>	<b>0.1804</b>	<b>2.0000e-004</b>	<b>0.0208</b>	<b>0.0123</b>	<b>0.0331</b>	<b>3.1500e-003</b>	<b>0.0114</b>	<b>0.0146</b>	<b>0.0000</b>	<b>18.7206</b>	<b>18.7206</b>	<b>5.0700e-003</b>	<b>0.0000</b>	<b>18.8272</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4700e-003	0.0335	0.0255	7.0000e-005	1.6200e-003	5.0000e-004	2.1200e-003	4.5000e-004	4.6000e-004	9.1000e-004	0.0000	6.7050	6.7050	6.0000e-005	0.0000	6.7062
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	4.7000e-004	4.6000e-003	1.0000e-005	6.8000e-004	1.0000e-005	6.9000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.6413	0.6413	4.0000e-005	0.0000	0.6421
<b>Total</b>	<b>2.7900e-003</b>	<b>0.0339</b>	<b>0.0301</b>	<b>8.0000e-005</b>	<b>2.3000e-003</b>	<b>5.1000e-004</b>	<b>2.8100e-003</b>	<b>6.3000e-004</b>	<b>4.7000e-004</b>	<b>1.1000e-003</b>	<b>0.0000</b>	<b>7.3463</b>	<b>7.3463</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>7.3483</b>

### 3.3 Site Preparation - 2015

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0263	0.2845	0.2132	2.0000e-004		0.0154	0.0154		0.0142	0.0142	0.0000	18.6506	18.6506	5.5700e-003	0.0000	18.7675
<b>Total</b>	<b>0.0263</b>	<b>0.2845</b>	<b>0.2132</b>	<b>2.0000e-004</b>	<b>0.0903</b>	<b>0.0154</b>	<b>0.1058</b>	<b>0.0497</b>	<b>0.0142</b>	<b>0.0639</b>	<b>0.0000</b>	<b>18.6506</b>	<b>18.6506</b>	<b>5.5700e-003</b>	<b>0.0000</b>	<b>18.7675</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	5.7000e-004	5.5200e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.2000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7695	0.7695	5.0000e-005	0.0000	0.7705
<b>Total</b>	<b>3.9000e-004</b>	<b>5.7000e-004</b>	<b>5.5200e-003</b>	<b>1.0000e-005</b>	<b>8.2000e-004</b>	<b>1.0000e-005</b>	<b>8.2000e-004</b>	<b>2.2000e-004</b>	<b>1.0000e-005</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>0.7695</b>	<b>0.7695</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>0.7705</b>

### 3.4 Grading - 2015

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0328	0.0000	0.0328	0.0168	0.0000	0.0168	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.2021	0.1334	1.5000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	14.1930	14.1930	4.2400e-003	0.0000	14.2820
<b>Total</b>	<b>0.0192</b>	<b>0.2021</b>	<b>0.1334</b>	<b>1.5000e-004</b>	<b>0.0328</b>	<b>0.0116</b>	<b>0.0444</b>	<b>0.0168</b>	<b>0.0107</b>	<b>0.0276</b>	<b>0.0000</b>	<b>14.1930</b>	<b>14.1930</b>	<b>4.2400e-003</b>	<b>0.0000</b>	<b>14.2820</b>

### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	4.7000e-004	4.6000e-003	1.0000e-005	6.8000e-004	1.0000e-005	6.9000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.6413	0.6413	4.0000e-005	0.0000	0.6421
<b>Total</b>	<b>3.2000e-004</b>	<b>4.7000e-004</b>	<b>4.6000e-003</b>	<b>1.0000e-005</b>	<b>6.8000e-004</b>	<b>1.0000e-005</b>	<b>6.9000e-004</b>	<b>1.8000e-004</b>	<b>1.0000e-005</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>0.6413</b>	<b>0.6413</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>0.6421</b>

### 3.5 Building Construction - 2015

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4208	3.4534	2.1556	3.0800e-003		0.2434	0.2434		0.2289	0.2289	0.0000	280.5935	280.5935	0.0704	0.0000	282.0719
<b>Total</b>	<b>0.4208</b>	<b>3.4534</b>	<b>2.1556</b>	<b>3.0800e-003</b>		<b>0.2434</b>	<b>0.2434</b>		<b>0.2289</b>	<b>0.2289</b>	<b>0.0000</b>	<b>280.5935</b>	<b>280.5935</b>	<b>0.0704</b>	<b>0.0000</b>	<b>282.0719</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0173	0.1471	0.1952	3.0000e-004	8.1800e-003	2.4100e-003	0.0106	2.3500e-003	2.2100e-003	4.5600e-003	0.0000	27.8967	27.8967	2.5000e-004	0.0000	27.9020
Worker	0.0356	0.0524	0.5076	9.0000e-004	0.0752	6.8000e-004	0.0758	0.0200	6.2000e-004	0.0206	0.0000	70.7945	70.7945	4.2500e-003	0.0000	70.8837
<b>Total</b>	<b>0.0528</b>	<b>0.1995</b>	<b>0.7028</b>	<b>1.2000e-003</b>	<b>0.0833</b>	<b>3.0900e-003</b>	<b>0.0864</b>	<b>0.0223</b>	<b>2.8300e-003</b>	<b>0.0252</b>	<b>0.0000</b>	<b>98.6912</b>	<b>98.6912</b>	<b>4.5000e-003</b>	<b>0.0000</b>	<b>98.7858</b>



### 3.6 Paving - 2015

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1600e-003	0.0126	7.4900e-003	1.0000e-005		7.1000e-004	7.1000e-004		6.5000e-004	6.5000e-004	0.0000	1.0614	1.0614	3.2000e-004	0.0000	1.0680
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>1.1600e-003</b>	<b>0.0126</b>	<b>7.4900e-003</b>	<b>1.0000e-005</b>		<b>7.1000e-004</b>	<b>7.1000e-004</b>		<b>6.5000e-004</b>	<b>6.5000e-004</b>	<b>0.0000</b>	<b>1.0614</b>	<b>1.0614</b>	<b>3.2000e-004</b>	<b>0.0000</b>	<b>1.0680</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	5.0000e-005	4.6000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0641	0.0641	0.0000	0.0000	0.0642
<b>Total</b>	<b>3.0000e-005</b>	<b>5.0000e-005</b>	<b>4.6000e-004</b>	<b>0.0000</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>7.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0641</b>	<b>0.0641</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0642</b>

### 3.6 Paving - 2016

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0199	0.2127	0.1408	2.1000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	19.9631	19.9631	6.0200e-003	0.0000	20.0896
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0199</b>	<b>0.2127</b>	<b>0.1408</b>	<b>2.1000e-004</b>		<b>0.0120</b>	<b>0.0120</b>		<b>0.0110</b>	<b>0.0110</b>	<b>0.0000</b>	<b>19.9631</b>	<b>19.9631</b>	<b>6.0200e-003</b>	<b>0.0000</b>	<b>20.0896</b>

### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	8.1000e-004	7.7800e-003	2.0000e-005	1.2900e-003	1.0000e-005	1.3000e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1765	1.1765	7.0000e-005	0.0000	1.1779
<b>Total</b>	<b>5.5000e-004</b>	<b>8.1000e-004</b>	<b>7.7800e-003</b>	<b>2.0000e-005</b>	<b>1.2900e-003</b>	<b>1.0000e-005</b>	<b>1.3000e-003</b>	<b>3.4000e-004</b>	<b>1.0000e-005</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>1.1765</b>	<b>1.1765</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>1.1779</b>

### 3.7 Architectural Coating - 2016

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7024					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6800e-003	0.0237	0.0188	3.0000e-005		1.9700e-003	1.9700e-003		1.9700e-003	1.9700e-003	0.0000	2.5533	2.5533	3.0000e-004	0.0000	2.5596
<b>Total</b>	<b>0.7061</b>	<b>0.0237</b>	<b>0.0188</b>	<b>3.0000e-005</b>		<b>1.9700e-003</b>	<b>1.9700e-003</b>		<b>1.9700e-003</b>	<b>1.9700e-003</b>	<b>0.0000</b>	<b>2.5533</b>	<b>2.5533</b>	<b>3.0000e-004</b>	<b>0.0000</b>	<b>2.5596</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	7.9000e-004	7.6500e-003	2.0000e-005	1.2700e-003	1.0000e-005	1.2800e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1559	1.1559	7.0000e-005	0.0000	1.1573
<b>Total</b>	<b>5.4000e-004</b>	<b>7.9000e-004</b>	<b>7.6500e-003</b>	<b>2.0000e-005</b>	<b>1.2700e-003</b>	<b>1.0000e-005</b>	<b>1.2800e-003</b>	<b>3.4000e-004</b>	<b>1.0000e-005</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>1.1559</b>	<b>1.1559</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>1.1573</b>

**31970005 nils-mixed use - mitigated construction**  
**Alameda County, Annual**

## 1.0 Project Characteristics

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### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Quality Restaurant	2.40	1000sqft	0.06	2,400.00	0
Condo/Townhouse	98.00	Dwelling Unit	6.13	98,000.00	280

### 1.2 Other Project Characteristics

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	63
<b>Climate Zone</b>	5	<b>Operational Year</b>	2014		
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	641.35	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - Mitigated construction run

Land Use - Project includes 98 du of condo/townhouses and 2.4 ksf of quality restaurant space.

Construction Phase - Construction expected to begin Jan 2015 with an operation date of Feb 2016.

Construction Off-road Equipment Mitigation - Apply construction mitigation - all construction equipment change engine type to engine tier 4 final

Demolition - Approximately 1,946.76 tons of debris

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	20.00	10.00



### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2015	1/14/2015	5	10	
2	Site Preparation	Site Preparation	1/15/2015	1/28/2015	5	10	
3	Grading	Grading	1/29/2015	2/11/2015	5	10	
4	Building Construction	Building Construction	2/12/2015	12/30/2015	5	230	
5	Paving	Paving	12/31/2015	1/27/2016	5	20	
6	Architectural Coating	Architectural Coating	1/28/2016	2/24/2016	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 5

Acres of Paving: 0

Residential Indoor: 198,450; Residential Outdoor: 66,150; Non-Residential Indoor: 3,600; Non-Residential Outdoor: 1,200 (Architectural

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42

Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40

### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	72.00	11.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	14.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	0.00	192.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

### 3.2 Demolition - 2015

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0208	0.0000	0.0208	3.1500e-003	0.0000	3.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0225	0.2418	0.1804	2.0000e-004		0.0123	0.0123		0.0114	0.0114	0.0000	18.7206	18.7206	5.0700e-003	0.0000	18.8272
<b>Total</b>	<b>0.0225</b>	<b>0.2418</b>	<b>0.1804</b>	<b>2.0000e-004</b>	<b>0.0208</b>	<b>0.0123</b>	<b>0.0331</b>	<b>3.1500e-003</b>	<b>0.0114</b>	<b>0.0146</b>	<b>0.0000</b>	<b>18.7206</b>	<b>18.7206</b>	<b>5.0700e-003</b>	<b>0.0000</b>	<b>18.8272</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4700e-003	0.0335	0.0255	7.0000e-005	1.6200e-003	5.0000e-004	2.1200e-003	4.5000e-004	4.6000e-004	9.1000e-004	0.0000	6.7050	6.7050	6.0000e-005	0.0000	6.7062
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	4.7000e-004	4.6000e-003	1.0000e-005	6.8000e-004	1.0000e-005	6.9000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.6413	0.6413	4.0000e-005	0.0000	0.6421
<b>Total</b>	<b>2.7900e-003</b>	<b>0.0339</b>	<b>0.0301</b>	<b>8.0000e-005</b>	<b>2.3000e-003</b>	<b>5.1000e-004</b>	<b>2.8100e-003</b>	<b>6.3000e-004</b>	<b>4.7000e-004</b>	<b>1.1000e-003</b>	<b>0.0000</b>	<b>7.3463</b>	<b>7.3463</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>7.3483</b>

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.3700e-003	0.0000	9.3700e-003	1.4200e-003	0.0000	1.4200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3700e-003	0.0103	0.1191	2.0000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	18.7206	18.7206	5.0700e-003	0.0000	18.8272
<b>Total</b>	<b>2.3700e-003</b>	<b>0.0103</b>	<b>0.1191</b>	<b>2.0000e-004</b>	<b>9.3700e-003</b>	<b>3.2000e-004</b>	<b>9.6900e-003</b>	<b>1.4200e-003</b>	<b>3.2000e-004</b>	<b>1.7400e-003</b>	<b>0.0000</b>	<b>18.7206</b>	<b>18.7206</b>	<b>5.0700e-003</b>	<b>0.0000</b>	<b>18.8272</b>



### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4700e-003	0.0335	0.0255	7.0000e-005	1.6200e-003	5.0000e-004	2.1200e-003	4.5000e-004	4.6000e-004	9.1000e-004	0.0000	6.7050	6.7050	6.0000e-005	0.0000	6.7062
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	4.7000e-004	4.6000e-003	1.0000e-005	6.8000e-004	1.0000e-005	6.9000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.6413	0.6413	4.0000e-005	0.0000	0.6421
<b>Total</b>	<b>2.7900e-003</b>	<b>0.0339</b>	<b>0.0301</b>	<b>8.0000e-005</b>	<b>2.3000e-003</b>	<b>5.1000e-004</b>	<b>2.8100e-003</b>	<b>6.3000e-004</b>	<b>4.7000e-004</b>	<b>1.1000e-003</b>	<b>0.0000</b>	<b>7.3463</b>	<b>7.3463</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>7.3483</b>

### 3.3 Site Preparation - 2015

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0263	0.2845	0.2132	2.0000e-004		0.0154	0.0154		0.0142	0.0142	0.0000	18.6506	18.6506	5.5700e-003	0.0000	18.7675
<b>Total</b>	<b>0.0263</b>	<b>0.2845</b>	<b>0.2132</b>	<b>2.0000e-004</b>	<b>0.0903</b>	<b>0.0154</b>	<b>0.1058</b>	<b>0.0497</b>	<b>0.0142</b>	<b>0.0639</b>	<b>0.0000</b>	<b>18.6506</b>	<b>18.6506</b>	<b>5.5700e-003</b>	<b>0.0000</b>	<b>18.7675</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	5.7000e-004	5.5200e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.2000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7695	0.7695	5.0000e-005	0.0000	0.7705
<b>Total</b>	<b>3.9000e-004</b>	<b>5.7000e-004</b>	<b>5.5200e-003</b>	<b>1.0000e-005</b>	<b>8.2000e-004</b>	<b>1.0000e-005</b>	<b>8.2000e-004</b>	<b>2.2000e-004</b>	<b>1.0000e-005</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>0.7695</b>	<b>0.7695</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>0.7705</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3800e-003	0.0103	0.1062	2.0000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	18.6505	18.6505	5.5700e-003	0.0000	18.7675
<b>Total</b>	<b>2.3800e-003</b>	<b>0.0103</b>	<b>0.1062</b>	<b>2.0000e-004</b>	<b>0.0407</b>	<b>3.2000e-004</b>	<b>0.0410</b>	<b>0.0223</b>	<b>3.2000e-004</b>	<b>0.0227</b>	<b>0.0000</b>	<b>18.6505</b>	<b>18.6505</b>	<b>5.5700e-003</b>	<b>0.0000</b>	<b>18.7675</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	5.7000e-004	5.5200e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.2000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7695	0.7695	5.0000e-005	0.0000	0.7705
<b>Total</b>	<b>3.9000e-004</b>	<b>5.7000e-004</b>	<b>5.5200e-003</b>	<b>1.0000e-005</b>	<b>8.2000e-004</b>	<b>1.0000e-005</b>	<b>8.2000e-004</b>	<b>2.2000e-004</b>	<b>1.0000e-005</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>0.7695</b>	<b>0.7695</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>0.7705</b>

**3.4 Grading - 2015**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0328	0.0000	0.0328	0.0168	0.0000	0.0168	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.2021	0.1334	1.5000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	14.1930	14.1930	4.2400e-003	0.0000	14.2820
<b>Total</b>	<b>0.0192</b>	<b>0.2021</b>	<b>0.1334</b>	<b>1.5000e-004</b>	<b>0.0328</b>	<b>0.0116</b>	<b>0.0444</b>	<b>0.0168</b>	<b>0.0107</b>	<b>0.0276</b>	<b>0.0000</b>	<b>14.1930</b>	<b>14.1930</b>	<b>4.2400e-003</b>	<b>0.0000</b>	<b>14.2820</b>

### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	4.7000e-004	4.6000e-003	1.0000e-005	6.8000e-004	1.0000e-005	6.9000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.6413	0.6413	4.0000e-005	0.0000	0.6421
<b>Total</b>	<b>3.2000e-004</b>	<b>4.7000e-004</b>	<b>4.6000e-003</b>	<b>1.0000e-005</b>	<b>6.8000e-004</b>	<b>1.0000e-005</b>	<b>6.9000e-004</b>	<b>1.8000e-004</b>	<b>1.0000e-005</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>0.6413</b>	<b>0.6413</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>0.6421</b>

### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0147	0.0000	0.0147	7.5800e-003	0.0000	7.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	7.8500e-003	0.0983	1.5000e-004		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	14.1930	14.1930	4.2400e-003	0.0000	14.2819
<b>Total</b>	<b>1.8100e-003</b>	<b>7.8500e-003</b>	<b>0.0983</b>	<b>1.5000e-004</b>	<b>0.0147</b>	<b>2.4000e-004</b>	<b>0.0150</b>	<b>7.5800e-003</b>	<b>2.4000e-004</b>	<b>7.8200e-003</b>	<b>0.0000</b>	<b>14.1930</b>	<b>14.1930</b>	<b>4.2400e-003</b>	<b>0.0000</b>	<b>14.2819</b>

### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	4.7000e-004	4.6000e-003	1.0000e-005	6.8000e-004	1.0000e-005	6.9000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.6413	0.6413	4.0000e-005	0.0000	0.6421
<b>Total</b>	<b>3.2000e-004</b>	<b>4.7000e-004</b>	<b>4.6000e-003</b>	<b>1.0000e-005</b>	<b>6.8000e-004</b>	<b>1.0000e-005</b>	<b>6.9000e-004</b>	<b>1.8000e-004</b>	<b>1.0000e-005</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>0.6413</b>	<b>0.6413</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>0.6421</b>

### 3.5 Building Construction - 2015

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4208	3.4534	2.1556	3.0800e-003		0.2434	0.2434		0.2289	0.2289	0.0000	280.5935	280.5935	0.0704	0.0000	282.0719
<b>Total</b>	<b>0.4208</b>	<b>3.4534</b>	<b>2.1556</b>	<b>3.0800e-003</b>		<b>0.2434</b>	<b>0.2434</b>		<b>0.2289</b>	<b>0.2289</b>	<b>0.0000</b>	<b>280.5935</b>	<b>280.5935</b>	<b>0.0704</b>	<b>0.0000</b>	<b>282.0719</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0173	0.1471	0.1952	3.0000e-004	8.1800e-003	2.4100e-003	0.0106	2.3500e-003	2.2100e-003	4.5600e-003	0.0000	27.8967	27.8967	2.5000e-004	0.0000	27.9020
Worker	0.0356	0.0524	0.5076	9.0000e-004	0.0752	6.8000e-004	0.0758	0.0200	6.2000e-004	0.0206	0.0000	70.7945	70.7945	4.2500e-003	0.0000	70.8837
<b>Total</b>	<b>0.0528</b>	<b>0.1995</b>	<b>0.7028</b>	<b>1.2000e-003</b>	<b>0.0833</b>	<b>3.0900e-003</b>	<b>0.0864</b>	<b>0.0223</b>	<b>2.8300e-003</b>	<b>0.0252</b>	<b>0.0000</b>	<b>98.6912</b>	<b>98.6912</b>	<b>4.5000e-003</b>	<b>0.0000</b>	<b>98.7858</b>

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0376	0.2563	2.0023	3.0800e-003		4.6700e-003	4.6700e-003		4.6700e-003	4.6700e-003	0.0000	280.5932	280.5932	0.0704	0.0000	282.0716
<b>Total</b>	<b>0.0376</b>	<b>0.2563</b>	<b>2.0023</b>	<b>3.0800e-003</b>		<b>4.6700e-003</b>	<b>4.6700e-003</b>		<b>4.6700e-003</b>	<b>4.6700e-003</b>	<b>0.0000</b>	<b>280.5932</b>	<b>280.5932</b>	<b>0.0704</b>	<b>0.0000</b>	<b>282.0716</b>

### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0173	0.1471	0.1952	3.0000e-004	8.1800e-003	2.4100e-003	0.0106	2.3500e-003	2.2100e-003	4.5600e-003	0.0000	27.8967	27.8967	2.5000e-004	0.0000	27.9020
Worker	0.0356	0.0524	0.5076	9.0000e-004	0.0752	6.8000e-004	0.0758	0.0200	6.2000e-004	0.0206	0.0000	70.7945	70.7945	4.2500e-003	0.0000	70.8837
<b>Total</b>	<b>0.0528</b>	<b>0.1995</b>	<b>0.7028</b>	<b>1.2000e-003</b>	<b>0.0833</b>	<b>3.0900e-003</b>	<b>0.0864</b>	<b>0.0223</b>	<b>2.8300e-003</b>	<b>0.0252</b>	<b>0.0000</b>	<b>98.6912</b>	<b>98.6912</b>	<b>4.5000e-003</b>	<b>0.0000</b>	<b>98.7858</b>

### **3.6 Paving - 2015**

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1600e-003	0.0126	7.4900e-003	1.0000e-005		7.1000e-004	7.1000e-004		6.5000e-004	6.5000e-004	0.0000	1.0614	1.0614	3.2000e-004	0.0000	1.0680
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>1.1600e-003</b>	<b>0.0126</b>	<b>7.4900e-003</b>	<b>1.0000e-005</b>		<b>7.1000e-004</b>	<b>7.1000e-004</b>		<b>6.5000e-004</b>	<b>6.5000e-004</b>	<b>0.0000</b>	<b>1.0614</b>	<b>1.0614</b>	<b>3.2000e-004</b>	<b>0.0000</b>	<b>1.0680</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	5.0000e-005	4.6000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0641	0.0641	0.0000	0.0000	0.0642
<b>Total</b>	<b>3.0000e-005</b>	<b>5.0000e-005</b>	<b>4.6000e-004</b>	<b>0.0000</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>7.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0641</b>	<b>0.0641</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0642</b>

### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.4000e-004	5.9000e-004	8.4600e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.0614	1.0614	3.2000e-004	0.0000	1.0680
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>1.4000e-004</b>	<b>5.9000e-004</b>	<b>8.4600e-003</b>	<b>1.0000e-005</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>1.0614</b>	<b>1.0614</b>	<b>3.2000e-004</b>	<b>0.0000</b>	<b>1.0680</b>

### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	5.0000e-005	4.6000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0641	0.0641	0.0000	0.0000	0.0642
<b>Total</b>	<b>3.0000e-005</b>	<b>5.0000e-005</b>	<b>4.6000e-004</b>	<b>0.0000</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>7.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0641</b>	<b>0.0641</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0642</b>

### 3.6 Paving - 2016

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0199	0.2127	0.1408	2.1000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	19.9631	19.9631	6.0200e-003	0.0000	20.0896
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0199</b>	<b>0.2127</b>	<b>0.1408</b>	<b>2.1000e-004</b>		<b>0.0120</b>	<b>0.0120</b>		<b>0.0110</b>	<b>0.0110</b>	<b>0.0000</b>	<b>19.9631</b>	<b>19.9631</b>	<b>6.0200e-003</b>	<b>0.0000</b>	<b>20.0896</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	8.1000e-004	7.7800e-003	2.0000e-005	1.2900e-003	1.0000e-005	1.3000e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1765	1.1765	7.0000e-005	0.0000	1.1779
<b>Total</b>	<b>5.5000e-004</b>	<b>8.1000e-004</b>	<b>7.7800e-003</b>	<b>2.0000e-005</b>	<b>1.2900e-003</b>	<b>1.0000e-005</b>	<b>1.3000e-003</b>	<b>3.4000e-004</b>	<b>1.0000e-005</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>1.1765</b>	<b>1.1765</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>1.1779</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.6100e-003	0.0113	0.1608	2.1000e-004		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	19.9631	19.9631	6.0200e-003	0.0000	20.0896
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>2.6100e-003</b>	<b>0.0113</b>	<b>0.1608</b>	<b>2.1000e-004</b>		<b>3.5000e-004</b>	<b>3.5000e-004</b>		<b>3.5000e-004</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>19.9631</b>	<b>19.9631</b>	<b>6.0200e-003</b>	<b>0.0000</b>	<b>20.0896</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	8.1000e-004	7.7800e-003	2.0000e-005	1.2900e-003	1.0000e-005	1.3000e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1765	1.1765	7.0000e-005	0.0000	1.1779
<b>Total</b>	<b>5.5000e-004</b>	<b>8.1000e-004</b>	<b>7.7800e-003</b>	<b>2.0000e-005</b>	<b>1.2900e-003</b>	<b>1.0000e-005</b>	<b>1.3000e-003</b>	<b>3.4000e-004</b>	<b>1.0000e-005</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>1.1765</b>	<b>1.1765</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>1.1779</b>

### 3.7 Architectural Coating - 2016

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7024					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6800e-003	0.0237	0.0188	3.0000e-005		1.9700e-003	1.9700e-003		1.9700e-003	1.9700e-003	0.0000	2.5533	2.5533	3.0000e-004	0.0000	2.5596
<b>Total</b>	<b>0.7061</b>	<b>0.0237</b>	<b>0.0188</b>	<b>3.0000e-005</b>		<b>1.9700e-003</b>	<b>1.9700e-003</b>		<b>1.9700e-003</b>	<b>1.9700e-003</b>	<b>0.0000</b>	<b>2.5533</b>	<b>2.5533</b>	<b>3.0000e-004</b>	<b>0.0000</b>	<b>2.5596</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	7.9000e-004	7.6500e-003	2.0000e-005	1.2700e-003	1.0000e-005	1.2800e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1559	1.1559	7.0000e-005	0.0000	1.1573
<b>Total</b>	<b>5.4000e-004</b>	<b>7.9000e-004</b>	<b>7.6500e-003</b>	<b>2.0000e-005</b>	<b>1.2700e-003</b>	<b>1.0000e-005</b>	<b>1.2800e-003</b>	<b>3.4000e-004</b>	<b>1.0000e-005</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>1.1559</b>	<b>1.1559</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>1.1573</b>

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7024					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-004	1.2900e-003	0.0183	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.5533	2.5533	3.0000e-004	0.0000	2.5596
<b>Total</b>	<b>0.7027</b>	<b>1.2900e-003</b>	<b>0.0183</b>	<b>3.0000e-005</b>		<b>4.0000e-005</b>	<b>4.0000e-005</b>		<b>4.0000e-005</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>2.5533</b>	<b>2.5533</b>	<b>3.0000e-004</b>	<b>0.0000</b>	<b>2.5596</b>



**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	7.9000e-004	7.6500e-003	2.0000e-005	1.2700e-003	1.0000e-005	1.2800e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1559	1.1559	7.0000e-005	0.0000	1.1573
<b>Total</b>	<b>5.4000e-004</b>	<b>7.9000e-004</b>	<b>7.6500e-003</b>	<b>2.0000e-005</b>	<b>1.2700e-003</b>	<b>1.0000e-005</b>	<b>1.2800e-003</b>	<b>3.4000e-004</b>	<b>1.0000e-005</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>1.1559</b>	<b>1.1559</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>1.1573</b>



**31970005 nils-mixed use - operational 2020**  
**Alameda County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Quality Restaurant	2.40	1000sqft	0.06	2,400.00	0
Condo/Townhouse	98.00	Dwelling Unit	6.13	98,000.00	280

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	63
<b>Climate Zone</b>	5			<b>Operational Year</b>	2020
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	491.65	<b>CH4 Intensity (lb/MW hr)</b>	0.022	<b>N2O Intensity (lb/MW hr)</b>	0.005

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - operational run for 2020 - Apply Renewable Energy Standards to PG&E 2006 emission factors decreasing by 33%

Land Use - Project includes 98 du of condo/townhouses and 2.4 ksf of quality restaurant space.

Construction Phase - Construction expected to begin Jan 2015 with an operation date of Feb 2016.

Vehicle Trips - Trip rate from Traffic Operations Report (Hexagon Transportation Consultants, Inc 2014) - condo/townhouse 5.81 trip rate, quality restaurant

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Existing features of project site

Energy Mitigation - New residential development exceed Title 24 by 25%

Water Mitigation - Implement water conservation measures

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	10.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	641.35	491.65
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	7.16	6.31
tblVehicleTrips	SU_TR	6.07	5.35
tblVehicleTrips	WD_TR	6.59	5.81

## 2.0 Emissions Summary

### 2.2 Overall Operational

#### Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											1.6040	3.7799	5.3839	4.1400e-003	1.3000e-004	5.5123
Energy											0.0000	258.1436	258.1436	7.7400e-003	3.8400e-003	259.4966
Mobile											0.0000	626.5382	626.5382	0.0220	0.0000	627.0006
Waste											9.5954	0.0000	9.5954	0.5671	0.0000	21.5039
Water											2.2568	11.7622	14.0190	0.2323	5.5900e-003	20.6315
<b>Total</b>											<b>13.4562</b>	<b>900.2239</b>	<b>913.6801</b>	<b>0.8333</b>	<b>9.5600e-003</b>	<b>934.1449</b>

#### Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											1.6040	3.7799	5.3839	4.1400e-003	1.3000e-004	5.5123

Energy												0.0000	227.7234	227.7234	7.1300e-003	3.2900e-003	228.8936
Mobile												0.0000	485.3703	485.3703	0.0176	0.0000	485.7391
Waste												9.5954	0.0000	9.5954	0.5671	0.0000	21.5039
Water												1.8055	9.8515	11.6570	0.1859	4.4700e-003	16.9465
<b>Total</b>												<b>13.0048</b>	<b>726.7251</b>	<b>739.7299</b>	<b>0.7818</b>	<b>7.8900e-003</b>	<b>758.5953</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.35	19.27	19.04	6.19	17.47	18.79

#### 4.0 Operational Detail - Mobile

#### 4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	485.3703	485.3703	0.0176	0.0000	485.7391
Unmitigated											0.0000	626.5382	626.5382	0.0220	0.0000	627.0006

#### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	569.38	618.38	524.30	1,272,315	971,909
Quality Restaurant	215.88	226.46	173.18	250,628	191,452
<b>Total</b>	<b>785.26</b>	<b>844.84</b>	<b>697.48</b>	<b>1,522,943</b>	<b>1,163,361</b>

### 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Quality Restaurant	9.50	7.30	7.30	12.00	69.00	19.00	38	18	44

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.543091	0.062201	0.166716	0.110184	0.030625	0.004564	0.019041	0.050825	0.001789	0.003661	0.005684	0.000199	0.001418

### 5.0 Energy Detail

#### 4.4 Fleet Mix

Historical Energy Use: N

#### 5.1 Mitigation Measures Energy

Exceed Title 24

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Electricity Mitigated											0.0000	108.1677	108.1677	4.8400e-003	1.1000e-003	108.6104
Electricity Unmitigated											0.0000	109.3455	109.3455	4.8900e-003	1.1100e-003	109.7930
NaturalGas Mitigated											0.0000	119.5557	119.5557	2.2900e-003	2.1900e-003	120.2833
NaturalGas Unmitigated											0.0000	148.7980	148.7980	2.8500e-003	2.7300e-003	149.7036

#### 5.2 Energy by Land Use - NaturalGas

##### Unmitigated

Land Use	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	kBTU/yr	tons/yr									MT/yr						
Quality Restaurant	408024										0.0000	21.7737	21.7737	4.2000e-004	4.0000e-004	21.9062	

Condo/Townhouse	2.38035e+006												0.0000	127.0243	127.0243	2.4300e-003	2.3300e-003	127.7974
<b>Total</b>													<b>0.0000</b>	<b>148.7980</b>	<b>148.7980</b>	<b>2.8500e-003</b>	<b>2.7300e-003</b>	<b>149.7036</b>

**Mitigated**

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Quality Restaurant	382830											0.0000	20.4293	20.4293	3.9000e-004	3.7000e-004	20.5536
Condo/Townhouse	1.85756e+006											0.0000	99.1264	99.1264	1.9000e-003	1.8200e-003	99.7297
<b>Total</b>												<b>0.0000</b>	<b>119.5557</b>	<b>119.5557</b>	<b>2.2900e-003</b>	<b>2.1900e-003</b>	<b>120.2833</b>

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	417744	93.1605	4.1700e-003	9.5000e-004	93.5417
Quality Restaurant	72576	16.1851	7.2000e-004	1.6000e-004	16.2513
<b>Total</b>		<b>109.3455</b>	<b>4.8900e-003</b>	<b>1.1100e-003</b>	<b>109.7930</b>

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	414418	92.4188	4.1400e-003	9.4000e-004	92.7970
Quality Restaurant	70620	15.7489	7.0000e-004	1.6000e-004	15.8133
<b>Total</b>		<b>108.1677</b>	<b>4.8400e-003</b>	<b>1.1000e-003</b>	<b>108.6103</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											1.6040	3.7799	5.3839	4.1400e-003	1.3000e-004	5.5123
Unmitigated											1.6040	3.7799	5.3839	4.1400e-003	1.3000e-004	5.5123

**6.2 Area by SubCategory**

**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											1.6040	2.5913	4.1953	2.9800e-003	1.3000e-004	4.2993
Landscaping											0.0000	1.1887	1.1887	1.1600e-003	0.0000	1.2130
<b>Total</b>											<b>1.6040</b>	<b>3.7799</b>	<b>5.3839</b>	<b>4.1400e-003</b>	<b>1.3000e-004</b>	<b>5.5123</b>



**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											1.6040	2.5913	4.1953	2.9800e-003	1.3000e-004	4.2993
Landscaping											0.0000	1.1887	1.1887	1.1600e-003	0.0000	1.2130
<b>Total</b>											<b>1.6040</b>	<b>3.7799</b>	<b>5.3839</b>	<b>4.1400e-003</b>	<b>1.3000e-004</b>	<b>5.5123</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.6570	0.1859	4.4700e-003	16.9465
Unmitigated	14.0190	0.2323	5.5900e-003	20.6315

## 7.2 Water by Land Use

### Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	6.38509 / 4.02539	12.8725	0.2085	5.0200e-003	18.8091
Quality Restaurant	0.728481 / 0.0464988	1.1465	0.0238	5.7000e-004	1.8225
<b>Total</b>		<b>14.0190</b>	<b>0.2323</b>	<b>5.5900e-003</b>	<b>20.6315</b>

### Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	5.10808 / 3.77984	10.7348	0.1668	4.0200e-003	15.4837
Quality Restaurant	0.582785 / 0.0436624	0.9222	0.0190	4.6000e-004	1.4628
<b>Total</b>		<b>11.6570</b>	<b>0.1859</b>	<b>4.4800e-003</b>	<b>16.9465</b>

## 8.0 Waste Detail

---

### 8.1 Mitigation Measures Waste

#### Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	9.5954	0.5671	0.0000	21.5039
Unmitigated	9.5954	0.5671	0.0000	21.5039

## 8.2 Waste by Land Use

### Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	45.08	9.1508	0.5408	0.0000	20.5076
Quality Restaurant	2.19	0.4446	0.0263	0.0000	0.9963
<b>Total</b>		<b>9.5954</b>	<b>0.5671</b>	<b>0.0000</b>	<b>21.5039</b>

### Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	45.08	9.1508	0.5408	0.0000	20.5076
Quality Restaurant	2.19	0.4446	0.0263	0.0000	0.9963
<b>Total</b>		<b>9.5954</b>	<b>0.5671</b>	<b>0.0000</b>	<b>21.5039</b>



Construction Health Risk Assessment Summary			
		BAAQMD Significance Threshold	Project Exceeds Threshold?
Maximum Annual PM2.5 Concentration	0.66 ug/m3	0.3 ug/m3	Yes
Total Increased Cancer Risk for A Child	60.28 risk per million	10 in a million	Yes
Total Increased Cancer Risk for An Adult	3.13 risk per million	10 in a million	No
Chronic Non-Cancer Hazard Index	0.13	1	No
Acute Non-Cancer Hazard Index	0.47	1	No

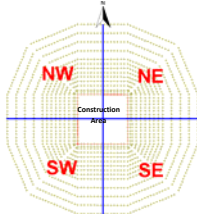
Estimation of Project PM2.5 (DPM) Air Concentration Impacts

Enter data in the highlighted cells for up to 5 years

Year	Size of Construction Area (acres)	Distance to Receptor Location (meters)	Receptor Location Sector	Annual Total PM2.5 Emissions (tons/year)	Annual Average Total PM2.5 Emissions (g/sec)	PM2.5 Concentration with Unit Emissions (ug/m3)	PM2.5 Concentration with Actual Emissions (ug/m3)
1	7	Fenceline	SW	0.3632	0.0439	428000	0.663
2	7	Fenceline	SW	0.0137	0.0017		0.025
3							
4							
5							



Wind Rose for NUMMI Station (direction FROM which the wind is blowing)



Receptor Location Quadrants

Estimation of Cancer Risk by Year

CR = Concentration x CPF x DBR x ED x EF / AT x ASF

- CR = Cancer Risk in units of Risk per Million
- Concentration = Annual PM2.5 Concentration (ug/m3 calculated from above)
- CPF = Cancer Potency Factor = 1.1 ((mg/kg-day)\*1 - do not change)
- DBR = Daily Breathing Rate = 581 ((liters/kg-day) - do not change - assumed rate for a child)
- DBR = Daily Breathing Rate = 302 ((liters/kg-day) - do not change - assumed rate for an adult)
- ED = Exposure Duration = 1 (years - assumes a minimum of 1 year of construction)
- EF = Exposure Frequency = 350 (days/year - assumes 350 days of exposure)
- AT = Averaging Period = 25550 (days - do not change)
- ASF = Age Sensitivity Factor

Year	Exposure Duration (years)	Annual PM2.5 Concentration (ug/m3)	Child Exposures		Adult Exposures	
			Age Sensitivity Factor	Child Cancer Risk (per million)	Age Sensitivity Factor	Adult Cancer Risk (per million)
1	1	0.663	10	58.1	1	3.0
2	1	0.025	10	2.2	1	0.1
3	1		4.75	0.0	1	0.0
4	1		3	0.0	1	0.0
5	1		3	0.0	1	0.0
<b>Total Increased Cancer Risk</b>				<b>60.3</b>		<b>3.1</b>

Estimation of Chronic Non-Cancer Hazard Index

Chronic Non-Cancer Hazard Index = Max Annual PM2.5 concentration in ug/m3 divided by 5 ug/m3 for diesel particulate matter

Chronic Non-Cancer Hazard Index = 0.13

Air Dispersion Model Calculation Matrix (used to estimate the annual PM2.5 concentration for a total construction emission of 0.00001 grams/m2-sec)

Downwind Distance to Receptor (meters)	0.5 Acres				1 Acres				2 Acres			
	NE	SE	SW	NW	NE	SE	SW	NW	NE	SE	SW	NW
Fenceline	1.77	1.91	0.69	0.71	2.39	2.75	0.49	0.95	3.58	3.66	1.87	1.78
15	1.34	1.53	0.37	0.51	1.82	2.16	0.50	0.70	2.86	2.97	1.08	1.23
25	0.92	1.08	0.24	0.38	1.31	1.61	0.35	0.54	2.17	2.30	0.72	0.94
50	0.43	0.54	0.11	0.19	0.66	0.81	0.16	0.30	1.15	1.25	0.38	0.52
75	0.24	0.32	0.07	0.11	0.39	0.52	0.11	0.18	0.70	0.79	0.19	0.32
100	0.15	0.22	0.04	0.07	0.26	0.36	0.08	0.12	0.47	0.57	0.12	0.22
125	0.11	0.15	0.03	0.04	0.18	0.26	0.06	0.09	0.33	0.43	0.09	0.16
150	0.07	0.11	0.02	0.04	0.14	0.20	0.04	0.07	0.25	0.33	0.07	0.12
175	0.06	0.09	0.02	0.03	0.10	0.16	0.03	0.05	0.19	0.27	0.06	0.09
200	0.05	0.07	0.02	0.03	0.08	0.13	0.03	0.04	0.16	0.22	0.05	0.08
250	0.03	0.03	0.01	0.02	0.06	0.09	0.02	0.03	0.11	0.15	0.03	0.05
300	0.03	0.03	0.01	0.01	0.04	0.06	0.01	0.02	0.08	0.11	0.03	0.04

Estimation of Acute Non-Cancer Hazard Index

Enter data in the highlighted cells

Year	Size of Construction Area (acres)	Distance to Receptor Location (meters)	Annual Total ROG Emissions (tons/year)	Max 1-hour ROG Emissions (g/sec)	Max 1-hour ROG Concentration with Unit Emissions (ug/m3)	Max 1-hour ROG Concentration with Actual Emissions (ug/m3)
1	7	Fenceline	0.5463	0.066	16910000	39.53
2	7	Fenceline	0.727	0.088	16910000	52.61
3						
4						
5						

Air Dispersion Model Calculation Matrix (used to estimate the Maximum 1-hour ROG concentration for a total construction emission of 0.00001 grams/m2-sec)

Downwind Distance to Receptor (meters)	0.5 Acre	1 Acre	2 Acres	3 Acres	4 Acres	5 Acres	6 Acres	7 Acres	8 Acres	9 Acres	10 Acres	12 Acres
	Maximum 1-hour ROG Concentrations in ug/m3 for a 1 g/sec Total Area Construction Emission Source											
Fenceline	39.7	56.8	84.0	102.8	116.9	128.5	137.9	146.2	153.1	160.5	166.5	177.1
15	43.4	63.5	90.9	108.8	122.4	133.5	142.8	150.7	157.6	163.9	169.8	179.9
25	47.1	67.8	93.6	110.7	123.5	130.3	139.3	150.6	153.4	163.5	169.1	179.2
50	45.8	64.6	87.5	103.1	114.7	122.3	130.4	139.3	143.4	151.5	156.6	165.5
75	38.8	55.5	76.6	90.8	101.3	109.9	117.6	124.4	129.7	135.5	140.4	149.1
100	32.0	47.0	65.9	78.8	88.7	97.0	104.4	110.3	115.9	121.3	125.7	134.3
125	26.4	39.6	57.1	69.3	78.6	86.1	92.8	98.7	103.9	108.8	113.1	121.3
150	21.8	34.1	50.1	61.1	69.9	77.2	83.7	89.1	94.2	98.5	102.0	110.4
175	18.3	29.4	44.3	54.8	62.9	70.0	75.9	81.2	85.9	90.3	94.2	101.7
200	15.5	25.6	39.3	49.1	57.0	63.6	68.4	74.2	78.9	83.2	86.9	93.9
250	11.5	19.8	31.7	40.7	47.7	53.5	58.9	63.4	67.7	71.5	75.1	81.5
300	8.9	15.7	26.1	34.1	40.5	46.1	50.9	55.1	59.0	62.7	66.0	72.1

Max 1 hour ROG Concentration During Construction 52.6 ug/m3

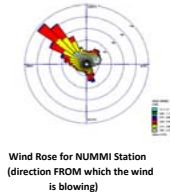
TOG Emissions = 1.1 x ROG Emissions

Max 1 hour TOG Concentration During Construction 57.9 ug/m3

TOG Speciation Profile for Off-Road Diesel Emissions CARB speciation Profile 818 (Building Construction - Diesel)

Chemical Species	Fraction of TOG	Acute REL	Chemical Species Concentration	
			(ug/m3)	Acute HI
acetaldehyde	0.07353	470	4.255	0.009
acrolein	0.01297	2.5	0.751	0.300
benzaldehyde	0.00699		0.405	
benzene	0.02001	1300	1.158	0.001
ethanol	0.00009		0.005	
ethylbenzene	0.00305		0.177	
ethylene	0.14377		8.320	
formaldehyde	0.14714	55	8.515	0.155
isobutane	0.01222		0.707	
isopentane	0.00602		0.348	
methane	0.04084		2.363	
methyl ethyl ketone	0.01477	13000	0.855	0.000
methylcyclopentane	0.00149		0.086	
m-xylene	0.00611	22000	0.354	0.000
n-butane	0.00104		0.060	
n-hexane	0.00157		0.091	
n-pentane	0.00175		0.101	
o-xylene	0.00335	22000	0.194	0.000
propionaldehyde	0.0097		0.561	
propylene	0.02597		1.503	
toluene	0.01473	37000	0.852	0.000
			<b>Aggregated Acute HI</b>	<b>0.465</b>

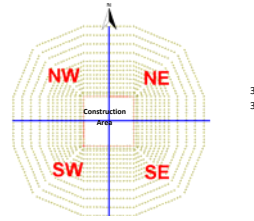
Construction Health Risk Assessment Summary			
		BAAQMD Significance Threshold	Project Exceeds Threshold ?
Maximum Annual PM2.5 Concentration	0.11 ug/m3	0.3 ug/m3	No
Total Increased Cancer Risk for A Child	9.78 risk per million	10 in a million	No
Total Increased Cancer Risk for An Adult	0.51 risk per million	10 in a million	No
Chronic Non-Cancer Hazard Index	0.02	1	No
Acute Non-Cancer Hazard Index	0.45	1	No



Estimation of Project PM2.5 (DPM) Air Concentration Impacts

Enter data in the highlighted cells for up to 5 years

Year	Size of Construction Area (acres)	Distance to Receptor Location (meters)	Receptor Location Sector	Annual Total PM2.5 Emissions (tons/year)	Annual Average Total PM2.5 Emissions (g/sec)	PM2.5 Concentration with Unit Emissions (ug/m3)	PM2.5 Concentration with Actual Emissions (ug/m3)
1	7	Fenceline	SW	0.06	0.0073	428000	0.110
2	7	Fenceline	SW	0.001	0.0001	428000	0.002
3							
4							
5							



Estimation of Cancer Risk by Year

CR = Concentration x CPF x DBR x ED x EF / AT x ASF

- CR = Cancer Risk in units of Risk per Million
- Concentration Annual PM2.5 Concentration (ug/m3 calculated from above)
- CPF = Cancer Potency Factor 1.1 ((mg/kg-day)\*1 - do not change)
- DBR = Daily Breathing Rate 581 ((liters/kg-day) - do not change - assumed rate for a child)
- DBR = Daily Breathing Rate 302 ((liters/kg-day) - do not change - assumed rate for an adult)
- ED = Exposure Duration 1 (years - assumes a minimum of 1 year of construction)
- EF = Exposure Frequency 350 (days/year - assumes 350 days of exposure)
- AT = Averaging Period 25550 (days - do not change)
- ASF = Age Sensitivity Factor

Year	Exposure Duration (years)	Annual PM2.5 Concentration (ug/m3)	Child Exposures		Adult Exposures	
			Age Sensitivity Factor	Child Cancer Risk (per million)	Age Sensitivity Factor	Adult Cancer Risk (per million)
1	1	0.110	10	9.6	1	0.5
2	1	0.002	10	0.2	1	0.0
3	1		4.75	0.0	1	0.0
4	1		3	0.0	1	0.0
5	1		3	0.0	1	0.0
<b>Total Increased Cancer Risk</b>				<b>9.8</b>		<b>0.5</b>

Estimation of Chronic Non-Cancer Hazard Index

Chronic Non-Cancer Hazard Index = Max Annual PM2.5 concentration in ug/m3 divided by 5 ug/m3 for diesel particulate matter

Chronic Non-Cancer Hazard Index = 0.02

Air Dispersion Model Calculation Matrix (used to estimate the annual PM2.5 concentration for a total construction emission of 0.00001 grams/m2-sec)

Downwind Distance to Receptor (meters)	0.5 Acres				1 Acres				2 Acres			
	NE	SE	SW	NW	NE	SE	SW	NW	NE	SE	SW	NW
Fenceline	1.77	1.91	0.69	0.71	2.39	2.75	0.49	0.95	3.58	3.66	1.87	1.78
15	1.34	1.53	0.37	0.51	1.82	2.16	0.50	0.70	2.86	2.97	1.08	1.23
25	0.92	1.08	0.24	0.38	1.31	1.61	0.35	0.54	2.17	2.30	0.72	0.94
50	0.43	0.54	0.11	0.19	0.66	0.81	0.16	0.30	1.15	1.25	0.38	0.52
75	0.24	0.32	0.07	0.11	0.39	0.52	0.11	0.18	0.70	0.79	0.19	0.32
100	0.15	0.22	0.04	0.07	0.26	0.36	0.08	0.12	0.47	0.57	0.12	0.22
125	0.11	0.15	0.03	0.04	0.18	0.26	0.06	0.09	0.33	0.43	0.09	0.16
150	0.07	0.11	0.02	0.04	0.14	0.20	0.04	0.07	0.25	0.33	0.07	0.12
175	0.06	0.09	0.02	0.03	0.10	0.16	0.03	0.05	0.19	0.27	0.06	0.09
200	0.05	0.07	0.02	0.03	0.08	0.13	0.03	0.04	0.16	0.22	0.05	0.08
250	0.03	0.03	0.01	0.02	0.06	0.09	0.02	0.03	0.11	0.15	0.03	0.05
300	0.03	0.03	0.01	0.01	0.04	0.06	0.01	0.02	0.08	0.11	0.03	0.04

Estimation of Acute Non-Cancer Hazard Index

Enter data in the highlighted cells

Year	Size of Construction Area (acres)	Distance to Receptor Location (meters)	Annual Total ROG Emissions (tons/year)	Max 1-hour ROG Emissions (g/sec)	Max 1-hour ROG Concentration with Unit Emissions (ug/m3)	Max 1-hour ROG Concentration with Actual Emissions (ug/m3)
1	7	Fenceline	0.1006	0.012	16910000	7.28
2	7	Fenceline	0.7064	0.086	16910000	51.12
3						
4						
5						

Air Dispersion Model Calculation Matrix (used to estimate the Maximum 1-hour ROG concentration for a total construction emission of 0.00001 grams/m2-sec)

Downwind Distance to Receptor (meters)	0.5 Acre	1 Acre	2 Acres	3 Acres	4 Acres	5 Acres	6 Acres	7 Acres	8 Acres	9 Acres	10 Acres	12 Acres
	Maximum 1-hour ROG Concentrations in ug/m3 for a 1 g/sec Total Area Construction Emission Source											
Fenceline	39.7	56.8	84.0	102.8	116.9	128.5	137.9	146.2	153.1	160.5	166.5	177.1
15	43.4	63.5	90.9	108.8	122.4	133.5	142.8	150.7	157.6	163.9	169.8	179.9
25	47.1	67.8	93.6	110.7	123.5	130.3	139.3	150.6	153.4	163.5	169.1	179.2
50	45.8	64.6	87.5	103.1	114.7	122.3	130.4	139.3	143.4	151.5	156.6	165.5
75	38.8	55.5	76.6	90.8	101.3	109.9	117.6	124.4	129.7	135.5	140.4	149.1
100	32.0	47.0	65.9	78.8	88.7	97.0	104.4	110.3	115.9	121.3	125.7	134.3
125	26.4	39.6	57.1	69.3	78.6	86.1	92.8	98.7	103.9	108.8	113.1	121.3
150	21.8	34.1	50.1	61.1	69.9	77.2	83.7	89.1	94.2	98.5	102.0	110.4
175	18.3	29.4	44.3	54.8	62.9	70.0	75.9	81.2	85.9	90.3	94.2	101.7
200	15.5	25.6	39.3	49.1	57.0	63.6	68.4	74.2	78.9	83.2	86.9	93.9
250	11.5	19.8	31.7	40.7	47.7	53.5	58.9	63.4	67.7	71.5	75.1	81.5
300	8.9	15.7	26.1	34.1	40.5	46.1	50.9	55.1	59.0	62.7	66.0	72.1

Max 1 hour ROG Concentration During Construction 51.1 ug/m3

TOG Emissions = 1.1 x ROG Emissions

Max 1 hour TOG Concentration During Construction

56.2 ug/m3

TOG Speciation Profile for Off-Road Diesel Emissions CARB speciation Profile 818 (Building Construction - Diesel)

Chemical Species	Fraction of TOG	Acute REL	Chemical Species Concentration	
			(ug/m3)	Acute HI
acetaldehyde	0.07353	470	4.135	0.009
acrolein	0.01297	2.5	0.729	0.292
benzaldehyde	0.00699		0.393	
benzene	0.02001	1300	1.125	0.001
ethanol	0.00009		0.005	
ethylbenzene	0.00305		0.172	
ethylene	0.14377		8.084	
formaldehyde	0.14714	55	8.274	0.150
isobutane	0.01222		0.687	
isopentane	0.00602		0.339	
methane	0.04084		2.296	
methyl ethyl ketone	0.01477	13000	0.831	0.000
methylcyclopentane	0.00149		0.084	
m-xylene	0.00611	22000	0.344	0.000
n-butane	0.00104		0.058	
n-hexane	0.00157		0.088	
n-pentane	0.00175		0.098	
o-xylene	0.00335	22000	0.188	0.000
propionaldehyde	0.0097		0.545	
propylene	0.02597		1.460	
toluene	0.01473	37000	0.828	0.000
			<b>Aggregated Acute HI</b>	<b>0.452</b>